

RESILIENT SCHOOLS: INDICATORS FROM LITERATURE AND BORDER SCHOOLS' PROJECTS

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Abstract

The study aims to refine the concept of resilient schools. It is based on a document and content analysis of 116 articles and 38 internal documents from Portuguese border schools. The focus on these schools brings attention to contextual factors, being useful to think on challenges of peripheral schools worldwide. Articles' findings indicated the prevalence of an individualistic approach to resilience. Results of educational projects of border region schools highlighted local specificities, suggesting the relevance of an ecological approach to conceptualize resilient schools. This concept contributes to a situated understanding of a combination of factors that may improve schools' organisation and dynamics particularly in challenging settings.

EDUCATION • QUALITY OF EDUCATION • CHANGE IN EDUCATION • RESILIENCE

ESCOLAS RESILIENTES: INDICADORES A PARTIR DE LITERATURA E DE PROJETOS DE ESCOLAS DE FRONTEIRA

Resumo

Este estudo pretende refinar o conceito de escolas resilientes. Baseia-se em uma análise documental e de conteúdo de 116 artigos e 38 projetos educativos de escolas situadas em regiões de fronteira portuguesas. A atenção dada a essas escolas permite realçar a importância de fatores contextuais, reforçando a pertinência de se pensarem os desafios das escolas periféricas a nível global. Os resultados da análise dos artigos indicaram a prevalência de uma abordagem individualista sobre resiliência. Os resultados dos projetos educativos das escolas das regiões fronteiriças destacaram especificidades locais, sugerindo a relevância de uma abordagem ecológica para conceptualizar escolas resilientes. Esse conceito contribui para uma compreensão situada de uma combinação de fatores que podem promover a melhoria da organização e da dinâmica das escolas, particularmente em contextos desafiantes.

EDUCAÇÃO • QUALIDADE DA EDUCAÇÃO • MUDANÇA EM EDUCAÇÃO • RESILIÊNCIA

ESCUELAS RESILIENTES: INDICADORES DE LA LITERATURA Y DE PROYECTOS DE ESCUELAS DE FRONTERA

Resumen

Este estudio tiene como objetivo refinar el concepto de escuelas resilientes. Se basa en un análisis documental y de contenido de 116 artículos y 38 proyectos educativos de escuelas ubicadas en regiones fronterizas portuguesas. La atención prestada a estas escuelas permite resaltar la importancia de los factores contextuales, reforzando la pertinencia de pensar los desafíos de las escuelas periféricas a nivel global. Los resultados del análisis de los artículos indicaron la prevalencia de un enfoque individualista de la resiliencia. Los resultados de los proyectos educativos de escuelas en regiones fronterizas destacaron especificidades locales, sugiriendo la relevancia de un enfoque ecológico para conceptualizar escuelas resilientes. Este concepto contribuye a una comprensión situada de una combinación de factores que pueden promover la mejora de la organización y la dinámica de las escuelas, particularmente en contextos desafiantes.

EDUCACIÓN • CALIDAD DE LA EDUCACIÓN • CAMBIO EN LA EDUCACIÓN • RESILIENCIA

ÉCOLES RÉLIENTES: INDICATEURS ISSUS DE LA LITTÉRATURE ET DE PROJETS ÉDUCATIFS D'ÉCOLES FRONTALIÈRES

Résumé

Cette étude vise à affiner le concept d'écoles résilientes. Elle s'appuie sur une analyse documentaire et de contenu de 116 articles et de 38 projets éducatifs d'écoles situées aux frontières du Portugal. L'attention accordée à ces écoles permet de souligner l'importance de facteurs contextuels et donc de renforcer la pertinence d'une réflexion sur les défis des écoles "périphériques" à l'échelle globale. Les résultats de l'analyse des articles ont indiqué la prévalence d'une approche individualiste de la résilience. Au contraire, les résultats des projets éducatifs des écoles des régions frontalières ont pu mettre en évidence les spécificités locales, suggérant la pertinence d'une approche écologique qui permet de mieux conceptualiser les écoles résilientes. Ce concept contribue à une compréhension située d'une combinaison des facteurs qui peuvent promouvoir l'amélioration de l'organisation et de la dynamique des écoles, surtout dans des contextes difficiles.

ÉDUCATION • QUALITÉ DE L'ÉDUCATION • CHANGEMENT DANS L'ÉDUCATION • RÉSILIENCE

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THE RESPONSIBILITY OF SCHOOL IN THE LIVES OF YOUNG PEOPLE IS WELL DOCUMENTED in the literature. It is a fact that young people experience school differently, as their sense of belonging and success are related to many factors influencing social and cultural capital, such as social class, gender, ethnicity, geography, motivation, and culture. However, in the context of contributing to ensure equity, schools have a clear social role in the development young people's educational pathways (Silva & Abrantes, 2017). Schools continue to be understood as places for training and educating active and free citizens in increasingly complex societies (Dewey, 1916).

Given that schools are central social settings, it is important to study how they develop and promote young people's educational pathways when located in specific contexts with additional challenges at demographic, social, economic, cultural and educational levels. Furthermore, it is important to pay attention to young people from peripheral contexts, as rural or some border regions, often forgotten from sociological and educational studies, as they face larger challenges by having to face, with fewer resources, local and global demands (Silva, 2013, 2014; Silva & Abrantes, 2017). In this context, the concept of resilient schools became relevant. In particular, the ecological perspective of resilience (Adger, 2000; Ungar, 2012) offers a framework for understanding how schools move towards and drive quality assurance.

This work has been produced as part of a PhD program and a national level project. The project aims to understand the mutual influence of individual, contextual/institutional and systemic factors in the biographies of young people in border regions, as well as to analyse how schools and communities deal with inequalities. Introducing the context is relevant to further understand the relevance of this proposal to refine the concept of resilient schools when challenged by particular contexts. As schools in border and often simultaneously rural regions are particularly relevant, not only to their traditionally assigned social role but also to local development, we considered that the concept of resilient schools could provide particular insights. Although the starting point start of this article is the awareness of challenges that schools in Portuguese border regions have, when compared with urban counterparts, we consider that the concept of resilient schools may enable a self-reflection and analysis of different educational systems, namely where schools are at-risk and in peripheral locations.

Schools and resilience approaches: Justifying the concept of resilience

Schools continue to struggle with structural inequalities related to social class, gender and ethnicity (Bourdieu, 1979/2010), but also related to geographic location, demography, levels of development and culture. All these intersected dimensions may influence how schools evaluate their conditions and plan their action, particularly as a result of the unequal distribution of educational opportunities in some territories. The fact that schools are institutions permeated by contextual factors (Boix-Tomàs et al., 2015) brings additional components that may affect their capacity to respond or to anticipate challenges, being, for that reason relevant to consider when studying resilience.

National and international literature suggest that schools in peripheral regions, such as borderlands, face specific educational challenges (Amiguiño, 2008; Heggen, 2000; Silva, 2014; Silva & Silva, 2018). Portuguese educational system is organised into school clusters, this is "organisational units that can encompass several schools and learning cycles, from kindergarten to upper secondary education" (European Commission & European Education and Culture Executive Agency [Eurydice], 2020, p. 26). It is also organized into one optional cycle (pre-school; 3-6 years) and four compulsory cycles, 3 being basic education and the last one being secondary

education: first cycle (6-10 years), corresponding to primary education; second cycle up to 6th grade (10-12 years); third cycle up to 9th grade (12-15 years); and secondary education (15-18 years). Some schools' clusters from border regions don't offer classes until secondary education (compulsory education in Portugal), as a depopulation consequence, which brings additional effort for some young people and families as they need to move to another municipality to complete compulsory education. In addition, the majority of young people need to leave their region to enrol in higher education (Silva, 2014; Silva & Silva, 2018), which means additional efforts for lower-income families. Curriculum offerings are less diverse and school clusters are geographically dispersed, resulting in longer travel times, often only twice a day due to insufficient transport networks.

Given these specificities and additional challenges compared to other contexts in Portugal, we start discussing the concept of resilient schools. Our premise was that we needed to understand whether the concept of resilient school, which has been used in other studies, both nationally and internationally, would promote a better understanding of these schools' actions and planning.

Leite and Fernandes (2014) point out changes, over the past two decades, influencing the dynamics of schools in Portugal. The authors refer specifically to Portuguese schools' into clusters, the implementation of external evaluation, the extension of compulsory education up to the age of 18, as well as to the development of citizenship and intercultural education. Therefore, we consider that these changes require new configurations of schools, and that, as pointed out by authors (Phillips et al., 2014; Whitney et al., 2012), is necessary to conceptualise resilient approaches in schools.

Several fields have studied resilience, as engineering, psychology, ecology and sustainability science (Thóren, 2014). Although resilience is predominantly known for its focus on the individual, authors such as Luthar et al. (2000, p. 543) define it as "a dynamic process encompassing positive adaptation [of an individual] in the context of significant adversity". Correspondingly, authors such as Masten et al. (1990) argue that the positive adjustment of the individual, in the context of adversity, is essential to the definition of resilience. Both Masten and colleagues (1990), as well as Luthar and colleagues (2000), defend that resilience is not exhausted in a trait or characteristic of the individual, but in a dynamic process of positive adaptation of the individual in a context of adversity.

Although these theories place dominance on the individual, in this paper we are interested in an ecological perspective of resilience that considers the person and his/her ecologies as part of the same process, involving negotiation and interrelation (Adger, 2000; Ungar, 2012). According to Ungar (2012, p. 28),

. . . [i]t is this inversion of our thinking that is transforming the study of resilience from attention to the capacities of individuals to a more complex understanding of the capacity of social and physical ecologies to potentiate the protective processes that contribute to what we define as functional outcomes associated with resilience in contexts of adversity.

Ecological and contextual perspectives have been mobilised under social and science educational studies (Ferreira et al., 2012). Focusing on ecological theories of resilience that recognises the relevance of person ecologies, and on the ecological theory of human development (Bronfenbrenner, 1989), this article proposes to examine the resilience of a relevant human ecology: school. The focus is not on the individual level, but on the institutional level. In other words, we conceptualise resilient schools as institutions rather than the school resilience of schools' actors.

In this line of thought, Whitney et al. (2012, p. 35) define resilient schools, stating that "organisations and systems can also perform above expectations in the face of high stress and/or risk environments and can be considered resilient" and this definition is shared by other authors, such as Phillips et al. (2014).

It is important to note that studies of resilient organisations, in fields other than education emphasise emphasize the importance of commitment to the organisation's mission, the ability to improvise, creativity, reciprocity by the community that enjoys the service, proactivity, fiscal transparency, opportunity seeking, and problem-solving (Witmer & Mellinger, 2016).

There are several levels of protective factors fostering resilient schools and helping to overcome adverse situations. The study by Whitney and colleagues (2012) emphasises administrative support, professional collaboration, the school's support programmes fostering an environment of care for students, as well as internal and external support systems. Other authors highlight different factors, such as the synergy between the school's vision and educational community, partnerships and strategic alliances at an internal level and with the surrounding community, solid leadership, support for teachers and non-teaching staff, as well as collaboration and communication with families (Esquivel et al., 2011; Naicker et al., 2016; Phillips et al., 2014). The literature values resilience in the educational sector, and empirical evidence suggests a positive impact of resilient schools on successful school practices, as well as on the individual resilience and academic success of the students (Esquivel et al., 2011; Naicker et al., 2016; Phillips et al., 2014; Silva & Silva, 2021). The characteristics of resilient schools identified from the published literature follow the whole school approach, reconciling the individual figures of schools, the curriculum, the teaching and learning processes, the dynamics and school *ethos*, and policies (Goldberg et al., 2018).

It is important to distinguish these studies from those on school effectiveness and school improvement theories more concerned with outputs (Patterson et al., 2002; Stoll & Fink, 1996). In turn, resilient schools focus on handling adverse situations while, at the same time, promoting their students' educational pathways, including school success, youth development and well-being. The major difference between these theories regards the specific consideration of schools' settings. A resilient school carefully considers contextual factors (internal and external) when acting and planning their educational mission, namely the existence of adverse conditions: "when you add to the mix an environment of crisis adversity or ongoing adversity, you have shifted your frame of reference to resilience" (Patterson et al., 2002, p. 4).

Authors such as Timm et al. (2008), for the Brazilian context, also highlight the importance of reflecting on the concept of resilience in educational settings, specifically regarding teachers. These authors emphasise that people can face adverse situations and to deal with them. Although we schools' figures, as teachers, are at the most importance, our approach to understand resilience is a whole school approach rather than to focus on schools' actors alone.

Recognising the potential of the concept of resilient schools, this article will analyse several perspectives found in studies focusing on this subject and in structural documents of schools that have everyday challenges to solve. After that, we will propose new indicators of resilient schools.

Resilience and the quality strategies of schools: Justifying the relationship

Resilient schools may be an answer to the proposal of alternative ways to study the quality of schools (Motala, 2001). Authors such as Dijkstra et al. (2017, p. 77) consider that it is important to study the schools' quality beyond students' academic achievement, namely focusing on social outcomes and considering "context, input, process and output factors". Besides school rankings and measures based only on outputs, which can maximise inequalities, this paper considers that quality is about fulfilling a role and being adjusted to internal and external school settings towards meaningful pathways for children and young people. That is, quality is also about educational tracks adjusted to each young people's reality, in accordance with their purposes, valuing formal,

non-formal and informal education and safeguarding opportunities that stimulate the possibility of high expectations for all.

According to Cheng and Tam (1997, p. 27), “[n]o matter whether referring to input, process, outcome, or all of these, the definition of education quality may often be associated with fitness for use, the satisfaction of the needs of strategic constituencies”. We argue that resilient schools can be important to think about the quality of schools and to understand the achievement of schools’ educational missions since this approach do not take the outputs from its inputs, processes and contexts. Schools can present more quality in their educational action if they are better prepared to meet their internal and external needs and if they are oriented towards achievable goals that make sense in that context. In this sense, the characteristics of resilient schools can be important when thinking about the quality strategies of schools. The responsiveness and the adjusted educational action considering internal and external school settings will promote the better achievement of school goals as institutions, together with their students and surrounding communities (Dias Sobrinho, 2012): the notion of quality we pursue in this article considers the adjustment of educational actions to schools’ realities towards the achievement of schools’ goals.

Additionally, the discussion about the concept of resilient schools’ benefits from the organisational learning model of education quality, by Cheng and Tam (1997), about the dynamics and continuous development in the search for improvement. The concept of resilient schools makes it possible to address the quality of schools within a spatialized perspective.

Recent articles, within the framework of the Estatuto da Criança e do Adolescente [Child and Adolescent Statute] (Brazil), highlight that to think on quality of education is fundamental to consider several dimensions that influence its achievement and the assurance of children and young people’s rights. Citing Nascimento and Cury (2020, p. 679, own translation), “it [quality] depends, in addition to economic factors, on political conditions, family and society engagement, level of democracy and state structures to ensure its effectiveness”.

Considering that “[q]uality in education should be consistent with the understanding of the educational process itself” (Elassy, 2015, p. 258), the concept of resilient schools provides insights about how schools can continuously adjust and improve, in specific challenging circumstances and contexts. In the pursuit of quality, schools must consider the needs and characteristics of internal and surrounding realities, and contribute to developing young people as citizens respecting their rights (Dijkstra et al., 2017; Leite & Fernandes, 2014; Nascimento & Cury, 2020; Silva & Silva, 2021; Dias Sobrinho, 2012).

Methodology

Data collection and analysis

We conducted a qualitative study to understand how published and unpublished academic literature conveys the concept of resilient schools. Additionally, we explored how official documents developed by schools located in Portuguese border regions mirrored characteristics of resilient schools. The specificity of these regions, particularly fewer opportunities and more disadvantages, is experienced in school contexts and visible in their official documents, which provided us with relevant insights when thinking about the schools’ potential for renewal and overcoming challenges.

This study is based on document and content analysis (Bardin, 2011). The content analysis, supported by NVIVO 11, included fluctuating reading, coding and analytical refinement, allowing analysis and interpretation. These procedures followed an inductive model of research and the categories were mainly emerging from the data.

Given the aim of this study and the nature of the empirical data, we pursued this methodological strategy. We found little scientific literature on the subject, different types of academic literature (more theoretical or empirical), mainly from the social sciences, humanities and education, and saw the need to supplement these data with the content of schools' official documents. This study examines the different uses of the concept in the scientific literature and bring them into dialogue with contributions from school documents.

To ground our study, we started by doing a systematic review of the literature (Efron & Ravid, 2019) followed by a content analysis (Bardin, 2011; Windle, 2011). We have applied several criteria in collecting the literature to be analysed, and developed the analysis in a structured way in order to inform the concept. In addition to the literature review (Efron & Ravid, 2019), we have also analysed published and non-published literature as well as school documents. The aim of the article and the nature of the data justified this methodological strategy.

Procedures regarding the selection and analysis of literature

Empirical data included published and unpublished literature (articles, Master's dissertations and PhD theses), up to June of 2020, and 38 educational projects of school clusters (one selected from each municipally located in the border regions near Spain).

The analysis of published and unpublished literature included complete documents collected from databases, namely EBSCOhost and Online Knowledge Library. We conducted our search through those databases since: i) through these databases we will be able to access international and national publications; ii) they integrate published work that we may find in other databases, as Web of Science.

The search strings were written in Portuguese and/or English: "resilient school" and "resilient schools". In order to refine the search (out of 291 documents, only 4 were doctoral dissertations, and the rest were articles), we deleted duplicates as well as those documents in which the search strings only appeared in the authors' biography or in the references section, and kept only documents with available full text. These steps led to a final selection of 116 documents, which were analysed and organised into thematic areas, providing an overview of how the use of the concept of resilient school and informing us when resilient schools were the main study object.

While analysing the 116 documents we found that most of the articles are about the resilience of school community members at an individual level (56 articles, 48.28%). The term "resilient school(s)" emerges in these articles, mainly as an adjective or an enhancer of the students' and school leaders' resilience. The study object is the person.

The other articles use of the term are related to safety issues (19 articles), studies or projects on violence and young people (7 articles), resilience in areas of deprivation or conflict (4 articles), resilient school libraries (2 articles), and resilient schools as a theme that can be studied using case study methodology (2 articles). Common to all these themes is the presence of the term "resilient school(s)" as a characteristic or a way of promoting something. Finally, 26 documents, only articles, (22.41%) were accounting studies on resilient schools, considered clearly a study object and those formed our final selection for in-depth analysis (Table 1).

The 26 articles selected are from 2001 to 2020. Nine of them are theoretical, one is an account of a program to construct resilient educational environments, and 16 are empirical articles. Most articles follow a qualitative approach, with interviews and focus groups, analysis of secondary data, and only one article is based on a questionnaire. The articles are predominantly from the United States of America (8), followed by Europe (6), Africa (5), Australia (4) and Russia (3).

Table 1
 Articles accounting research that work on "resilient school(s)" as study object

Article (A)	Author(s), date	Country	Data sources
A1	Acevedo & Mondragón, 2005	Colombia	Presentation of a program for building resilient educational environments and principal results
A2	Agasisti & Longobardi, 2014	Italy	Analysis of data from the OECD-PISA*
A3	Di Biase, 2017a	Australia	Theoretical/Special issue
A4	Di Biase, 2017b	Australia	Interviews
A5	Corbett & Hawkins, 2017	Australia	Interviews
A6	Eickelmann et al., 2019	Germany	Secondary data analysis
A7	Esquivel et al., 2011	United States	Theoretical/Special issue
A8	Fleisch & Christie, 2004	South Africa	Theoretical/Literature review
A9	Golubitsky, 2017	Russia	Secondary data analysis
A10	Motala, 2001	South Africa	Theoretical/Literature review
A11	Naicker et al., 2016	South of Africa	Case study: interviews (semi-structured and focus group interviews), observation, transect walks and document analysis
A12	Patterson & Patterson, 2004	United States	In-depth interviews
A13	Perumal, 2009	South Africa	Theoretical/Experience of the author literature review
A14	Phillips et al., 2014	Unites States	Secondary data analysis
A15	Pinskaya et al., 2018	Russia	Interviews; Focus group; Secondary data
A16	Pinskaya et al., 2019	Russia	Secondary data analysis
A17	Schelvis et al., 2014	United Kingdom	Theoretical/Literature review
A18	Sharp, 2001	United States	Theoretical/Literature review
A19	Sibanda, 2017	South Africa	Theoretical/Literature review
A20	Smit, 2015	South Africa	Literature review; Interviews
A21	Tintor, 2013	Croatia	Interviews; Focus group
A22	Wallace et al., 2007	Australia	Secondary data analysis; Interviews
A23	Wallin, 2008	Canada	Questionnaire; Secondary data analysis; Focus group
A24	Watkins et al., 2007	United Kingdom	Secondary data analysis; Interviews
A25	Whitney et al., 2012	United States	Mixed methods: Secondary data analysis; Interviews
A26	Campos, 2020	Spain	Theoretical

Source: Authours' elaboration based on survey data.

Note: Full reference listed in the References section.

* Programme for International Student Assessment (PISA) of the Organisation for Economic Co-operation and Development (OECD).

The content analysis of the 26 articles, mainly developed in English speaking countries, indicates three comprehensive analytical categories when considering resilient schools' key factors: (i) *problem solving*, as an action key driver; (ii) *strategies and approaches*, concerning integrated strategies; and (iii) *the role of school staff, parents/families and key persons from the local community*. Of these categories, the one that is most represented and frequent is the one that refers to school and local community persons, both as collectively and individually, acting to promote resilient schools.

Nevertheless, in studies that have resilient schools as study object, the individual is understood as representing a role with a positive impact in the development of those contexts. In this sense, even when referring to individuals aims to “de-centres the individual as the primary unit of analysis” (Ungar, 2012, p. 18).

Given that the published literature on resilient schools that we analysed after the application of the referred set of criteria was not large we considered relevant to complement this analysis with a content analysis of educational projects developed by border region schools in mainland Portugal to better elaborate on the strengths and transferability of the concept provided by the literature, but also to integrate additional aspects that those schools would bring to the discussion.

Procedures regarding the selection and analysis of school educational projects

The content analysis of educational projects from border schools in mainland Portugal is essential to strengthen and/or identify characteristics of resilient schools considering both the input of schools through its official documentation and the data analysed from the scientific articles.

It is a compulsory procedure for all schools in Portugal to design a project every three years to guide school policy and practice in relation to problems, priorities and practical strategies (Silva & Silva, 2018). These documents are public and approved by each School Council composed by the school head teacher and by representatives of teachers, non-teaching staff, students and community at large. Those are instruments of autonomy and management of the schools. Citing Portuguese legislation, educational projects gives account on “the principles, values, goals and strategies towards the fulfilment of its educational mission by the school clusters or non-grouped schools” (Decreto-Lei n. 75, 2008, p. 2344).

We selected the most recent versions publicly available on school websites of the educational projects of 38 school clusters located in all border regions municipalities (38) (Table 2).

For the selection of educational projects to be analysed, safeguarding the national dimension of the research, we apply the following criteria: (i) in each municipality we analysed the educational project from the school cluster (head school) with basic and secondary schooling (EBS) offer; (ii) in cases where there were no school clusters with secondary schooling offer, we analysed the educational project of the school cluster with only basic schooling (EB) offer; (iii) in the case of municipalities where there was more than one school cluster with basic and secondary schooling offer, it was randomly selected among the existing EBS clusters. For this selection, the schools (groupings and non-grouped schools) of border municipalities were listed based on data made available on the website of the Directorate-General of School Establishments (DGEstE) for the 2015/2016 school year.

Table 2
Educational projects of Portuguese border schools

Educational projects of school clusters (P)	Region	Title
P1	Alentejo (South)	“EP” *
P2	Algarve (South)	“EP”
P3	Centre	“EP: teaching and learning how to grow”
P4	North	“EP”
P5	Alentejo (South)	“EP”
P6	Alentejo (South)	“EP”
P7	North	“EP”

(To be continued)

(Continuation)

Educational projects of school clusters (P)	Region	Title
P8	North	"EP: more and better public school"
P9	Alentejo (South)	"EP"
P10	Centre	"EP: together for quality and rigor in the training and education of students"
P11	Alentejo (South)	"EP"
P12	Algarve (South)	"EP"
P13	North	"EP"
P14	Alentejo (South)	"EP"
P15	Centre	"EP"
P16	North	"EP: an active school to act and interact for change and pedagogical innovation"
P17	Centre	"EP: from the educational territory that we are to the educational territory that we want to be"
P18	Alentejo (South)	"EP: quality and equity - a shared responsibility"
P19	North	"EP"
P20	Alentejo (South)	"EP"
P21	North	"EP"
P22	North	"EP: all together by the school cluster"
P23	North	"EP"
P24	North	"EP: fly with your own wings"
P25	Alentejo (South)	"EP"
P26	Alentejo (South)	"EP"
P27	Alentejo (South)	"EP: for an active citizenship"
P28	Centre	"EP"
P29	North	"EP: transforming lives, feeding dreams, promoting careers"
P30	Alentejo (South)	"EP"
P31	Centre	"EP"
P32	Alentejo (South)	"EP"
P33	North	"EP"
P34	North	"EP"
P35	North	"EP"
P36	Algarve (South)	"EP"
P37	North	"EP: facing interiority by broadening educational horizons"
P38	North	"EP: observing the past, planning for the future"

Source: Authors' elaboration based on survey data.

* EP = educational project without subtitle.

Content analysis of the educational school projects included a fluctuating reading and allow to identify indicators of resilient schools. This analysis benefited from the exhaustive selection and analysis of the literature above mentioned and from longstanding contact with these schools

which allowed us to discover emerging indicators that were missing or less relevant in the literature dedicated to the study of resilient schools. The qualities of resilient schools that were only considered in school's documents were: (i) development of a sense of belonging to school among the school community; (ii) reducing bureaucratic procedures; (iii) strategies to the valorisation of local culture; (iv) interests in opening the schools to national and international contexts and opportunities.

Analysis of results and discussion

This section will focus on the content analysis of the final selected articles, outlined by the three broad analytical categories, and combined with the content analysis of the educational projects, to find distances and proximities. We will refer to empirical material by using "A[Number]" for articles and "P[Number]" for educational projects.

Resilient schools and the challenge of problem solving

The content analysis indicates that, when using the concept of resilient schools, articles refer to schools that are addressing problem solving (to overcome and/or to prevent) and react proactively to a situation or need, either internal or external to schools (according to A5, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A20, A22, A24, A25, A26). Problem solving is related to more concrete (such as communities with social, economic and educational disadvantages) or general adverse situations (such as socially changing times). Resilient schools are places that find solutions and define strategies to put them into action. In addition, they perform better than expected and turn out stronger from a challenging situation. Being problem solvers, resilient schools not only solve the challenging need/problem, but they also know how to profit from this situation to strengthen themselves. This is aligned with Patterson et al. (2002) regarding effectiveness and resilience.

This focus of schools on problem solving is also present in educational projects. In these documents, concerns with problem solving and, above all, with prevention are evident goals. Some schools have problems that are transversal to many other schools (such as social exclusion), and other schools anticipate concrete problems, resulting from the local context, for which they propose resolution strategies.

The inevitable result of proactive problem solving is that resilient organisations are capable of success in the face of adversity. (A14).

To continue to present, in the school offer, alternative routes so that students, after the 9th year of schooling, can choose to continue their studies in the municipality. (P2).

In addition to transforming themselves, resilient schools are also defined as being capable of transforming and having an impact on their students (A6, A16, A21, A25). These schools are promoters of justice, equity, resilience, well-being and higher academic achievements of their pupils. This focus on students may also be found in schools' documents.

Resilient schools help their students achieve higher educational goals in the face of unfavourable conditions. (A16).

The School ensures a public service with quality that enhances students' academic and personal success. (P31).

As we may understand, in addition to academic success, schools show concern with their diversified training, emotional issues, participation, citizenship, well-being and promotion of high expectations.

Resilient schools, their strategies and approaches

We consider approaches as referring to general understandings of the schools for the achievement of their missions. Strategies are the action plans and concrete measures to act in agreement with the approaches.

Content analysis of literature indicates that resilient schools propose innovative ways of thinking and facing challenges (A3, A10, A17, A22). These approaches are supported by the balanced management strategies of available resources for the needs of the schools. These schools embrace change and place themselves to flexibly design and modify the structures of the school environment. This innovative approach tailored by schools, in the way of thinking and facing challenges, is evident in the analysis of the educational projects, as there are schools that adjust to new guidelines, European or national, willing to change and appropriate new recommendations to ensure a better educational environment.

The study concludes with a series of design principles, providing insights for others who intend to promote innovation and reform in related contexts. (A3).

To update the teaching and learning methodologies to make classes more dynamic and participated, using, in particular, new technologies. (P15).

Furthermore, one article introduces resilient school approaches as an indicator to inform the quality of schools: *“Innovative research within the South African context is beginning to create a more encompassing approach to quality, redress and equity” (A10).*

Resilient schools rely on self-knowledge to inform and empower the schools (A4, A11, A24). They are capable of recognising the source of the problems, of identifying easily available resources, voicing and acting upon their problems. As a strategy to improve self-knowledge, schools assess themselves formally and informally, monitoring their action. In the schools' documents, this concern is often present and, usually, a team ensures the school's evaluation and monitoring.

This challenge also serves to distinguish between the different levels of constraints, in that some can be more easily solved from within the school, while others are more problematic. Being able to differentiate these constraints is a crucial feature of the Research School, and a distinctive element of being a “resilient school”. (A4).

To reinforce the planning of the Group by developing joint initiatives for diagnosis, the definition of priorities, strategies, goal setting, execution of initiatives, monitoring and evaluation. (P6).

Resilient schools follow an ecological and systemic approach, as they consider the intersection of different ecologies of people's life contexts, as well as different levels of influencing factors when thinking about schools' work (A8, A25). Resilient schools consider their specific conditions and contexts, and act according to social, cultural and economic circumstances, resources available, and educational systems in which they are inserted (A3, A4, A6, A8, A17, A25). These schools may influence the practices of other schools, but always assuring that each school strategy needs to be in line with their specificities. In educational projects, this ecological approach is observable when schools consider in their action the resources of internal and external settings and when they identify consequences of their actions not only internally, but also externally to the immediate school context.

The study utilises information from the community, district, and school building levels, following an ecological systems theoretical framework. (A25).

To join efforts with the municipality, with the goal of continuous and systematic improvement of the educational service provided to the community. (P4).

Collaborative (for example, co-operative working) and democratic strategies (for example, the involvement of parents and the community) are two types of strategies used in schools acting as a collective (A14, A18, A20). This article has already addressed collaborative work, as well as practices of care and support, through the work of Whitney et al. (2012). Afterschool events, extracurricular activities, well-established channels of communication, high expectations and shared responsibilities reinforce this collective approach. Schools' documents also refer to the collective that comprises teaching and non-teaching staff, students, parents and guardians, the school library, the community outside the schools (for example, former students) and stakeholders. The strength of the collective body lies in not only working together, but also in sharing good practices.

Through combining an emphasis, throughout the curriculum, on co-operative working and high levels of emotional literacy with structured peer-led approaches to care. (A18).

[Investigation] found that these schools have certain democratic features in common, such as a culture of concern, good governance and community relationships, adequate parental involvement, and safety and discipline. (A20).

Promote a participatory culture, fostering motivation and interaction in the school community. (P27).

The articles under analysis point to the safeguarding of security and space functionality as being distinctive of resilient schools, including the design of programs to promote the health and safety of students, or to be cautious with options in terms of architecture and resources (A14, A25, A26). In the educational projects, these are shared concerns.

The most critical aspects regarding resilient, safer schools are, undoubtedly, those related to safety But those design and building tools should be complemented with other criteria, derived from the quality of the space and the potential wellbeing it can generate in students, faculty and the community. (A26).

To ensure safety conditions at school for the whole community. (P5).

The role of school personnel, parents/families and the surrounding community in promoting resilient schools

The school principal and team, teaching and non-teaching staff, as well as the families/parents and the surrounding community, have an essential role in promoting and strengthening resilient schools. In addition to the role each one may develop individually, the role they play as a collective and in interaction, under a sense of community, is also relevant (A4, A15, A25). It is important to mention von Bertalanffy (1968), specifically regarding the notion of a system whose parts are coordinated to form a complex unit and in which the change of one of the parts affects the whole: "entities called systems, i.e., consisting of parts 'in interaction'" (p. 19). In the educational projects, this value of the school staff is perceived through textual passages that reflect the mobilisation of all personnel in carrying out activities, including the elaboration of the schools' structural documents.

The second broad theme evident among all of the high risk, high performing schools is the development and support of a sense of community that permeates the school building, transcends different grade levels. (A25).

Prepare the structuring of documents of the school cluster, in collaboration with the educational community. (P10).

Besides considering the relevance of the collective effort of the schools towards the development of resilient schools, the role of school leaders and teachers is the most valued. Conversely, the articles make fewer references to families, communities, stakeholders and students.

In resilient schools, leaders play a key role alongside schools and their management of resources (A2, A4, A6, A8, A11, A13, A19, A22, A25). In the context of refining the concept of resilient schools, the specificities of the school leaders are related to the definition of consistent policies regarding schools' needs and scope, on the encouragement of professional development, and on fostering the relationships of the school community, both amongst themselves and with the surrounding community. Leaders are also indicated as those who nurture common pedagogical values within the schools. An example of a relevant figure, but not the only one, of leadership is the school head teacher. The articles also highlight the importance of teachers as leaders, with the issues of relationships, proximity and care being relevant (A4, A11, A12). This aspect confirms the importance of shared leadership and is corroborated by studies, such as that of Pam (2010). Schools, through their documents, also introduce their interest in a shared leadership, as well as the possibility of developing training for that purpose.

Some schools, however, have an important advantage in meeting adversity: teacher leaders who are passionately committed to helping the school maintain a resilient culture during tough times. (A12).

To develop an organisational leadership that encourages individual and collective responsibility and an environment of sharing. (P36).

Teachers are seen as important for the development of a resilient school, since they are close to the students and are capable to identify their needs, to adjust practices, and to prolong their role for the development of interactions with the community (A4, A11, A17). The emotional connection and sense of care are, therefore, important characteristics that teachers also have and are considered an important factor that studies indicate to foster resilient schools. Additionally, studies (A15) point to those teachers as focused on in-service training to improve a diversity of competences and skills, also demonstrating willingness to engage in collaborative work with colleagues in their or other schools. In line with the publications analysed, schools' documents also stress the importance of continuous training for their teachers and add pedagogic supervision and the sharing of good practices as a way of improving the teaching profession.

A school that is using its resources (i.e. the attentive observation of the teacher) proactively would facilitate lessons on efficient search strategies. (A17).

Teachers also networked with colleagues at circuit, district, regional and provincial levels and engaged in staff development initiatives with other schools. (A11).

To value pedagogical supervision as a practice for professional development and which favours the introduction of good practices in the classroom context. (P17).

Students (A1), families (A4, A7), communities (A7, A19) and stakeholders (A23) have residual references. In line with valuing the collective, already mentioned in this article, the educational projects of schools highlight their investment in promoting the participation of students, non-teaching staff, parents and guardians, families, and stakeholders, always with a focus on promoting the best conditions for their students.

New proposals from the Portuguese border schools' documents

The analysis of educational projects confirmed and illustrated all the characteristics of resilient schools mentioned above that were indicated by the academic literature under analysis, as schools present goals and/or priorities for intervention in line with those qualities. However, four characteristics emerged from the content analysis of documents of border regions' schools' that may contribute to a refined definition of resilient schools.

The first one is related to the development of a sense of belonging to school among the school community (*"Strengthen individual and collective ownership of the different spaces and resources of the school cluster by all elements of the school community"*, P27). Osterman (2000) defends the significance of cultivating a sense of community in schools and its benefit to the educational pathways of young people.

Regarding the second characteristic, about reducing bureaucratic procedures (*"To promote de-bureaucratisation in a sustainable and effective way"*, P4) it is an old complaint in Portuguese schools and affects schools' daily activities and priorities. Schools are affected by, sometimes, unreasonable amount paperwork that it is, not only, time consuming, but it is done within a purpose of accounting with questionable impact on educational quality.

The third dimension gives attention to the valorisation of local culture (*"To increase the number of students enrolled in Mirandesa Language and Culture"*, P17). This aspect is especially relevant in contexts as border regions as despite the disadvantages, there are potentialities such as natural patrimony and resources, heritage, culture and local traditions that must be promoted and integrated in the curricula (Silva, 2013, 2014; Silva & Silva, 2018, 2021; Vázquez, 2015).

The fourth aspect highlighted in the educational projects reinforces the importance of opening schools to national and international opportunities (*"Fostering openness to the environment, developing synergies in national and international territory"*, P7). This contribution may reflect, on one hand, the value of partnerships, networking and synergies, that authors such as Chapman and Hadfield (2010) argue, enhancing the action of schools and, on the other hand, strengthen the relevance of schools as institutions open to the contiguous and, simultaneously to the international environment benefiting from both. Note that opening schools to its surrounding community is particularly relevant in these peripheral territories where the school has an active role in the local development (Amiguiño, 2008). Opening up to the international context can be an asset to enhance opportunities and at the same time take advantage of its border conditions and proximity to other countries.

We may conclude from these contributions that those four qualities found in school educational projects result either from the appropriation or consequence of guidelines of the Portuguese educational system or have a key driver from the local context.

Conclusion

Although the importance of resilience in the educational field is well documented, the literature on resilient schools is scarce. Despite the theoretical proposals of the ecological model of resilience, empirical studies continue to address resilience by focusing on an individual approach.

The data analysis indicated that the concept of resilient schools is used when researching contexts of adversity, whether it be emergent or ongoing. In fact, while promoting the educational pathways of young people, schools located in more challenging contexts are involved in solving specific adverse situations often unrelated to the school context directly, such as networking to solve problems of the community at large.

According to published articles, resilient schools are those that share “PAIRS” characteristics: Problem solving (resilient schools are focused on solving problems); Action (resilient schools are those characterised by their proactivity, facing and/or preventing difficulties); Improvement (resilient schools strengthen themselves from an adverse situation); Reform (resilient schools are open to reform and adjust themselves, thinking about change as a positive challenge); Self-knowledge (resilient schools are aware of their internal and external specificities and monitor their work).

Therefore, resilient schools are not defined by the sum of individuals' resilience, but by how they act as a system (von Bertalanffy, 1968), addressing combined aims: those in common with other schools, such as supporting youth educational pathways, and others inherent to their internal and external reality.

We believe that resilient schools may be differentiated in terms of practices, since they are responsive to their internal and external specificities but share a culture of resilience. It can be translated into the way they analyse the advantages of change, face challenges in innovative ways, adopt democratic and collaborative strategies, share leadership, and consider different ecologies when addressing challenges. Some characteristics define resilient schools but, according to their internal and external reality, each school may activate responsive strategies: there is no formula applicable to all contexts, as it needs to be contextualised. Whitney et al. (2012, p. 36) consider that “[h]igh-performing, at-risk schools are not all equal in the challenges they face and the resources available”.

By combining the data from different sources, we aim to highlight the fundamental characteristics of resilient schools. Advancing from the characteristics emerging from academic literature and confirmed in schools' documents (the aforementioned PAIRS), the educational projects also point to other characteristics of resilient schools, such as a collective force, high expectations, ecologies, context, and the commitment to keep on track a permanent developmental process (which can be organised under the acronym CHECK). The *collective strength* is related to the importance of all school personnel and their joint action towards the same goals, sharing and nurturing a sense of belonging to the school. The *high expectations* seek to illustrate that a resilient school faces disadvantages instead of being defined by these disadvantages. By *ecologies*, we mean that resilient schools need and benefit from conciliating several dimensions of school, within and beyond their walls. *Context* is crucial for resilient schools, as they are sensitive to their internal and external reality, and value the local culture. Lastly, there is a commitment to *keep on track* investing in training and openness to new opportunities, as well as new guidelines for permanent development and adjustment. This concept considers schools as contexts that can progressively improve their educational conditions and actions, pursuing a vision of success that includes not only academic success, but also the personal, emotional, civic and cultural growth of their pupils, as well as local development.

As a way of organising information, and considering that this concept needs further development, we propose the conceptualisation of resilient schools using the acronym “PAIRS CHECK”: (P) *problem solving*, (A) *action*, (I) *improvement*, (R) *reform*, (S) *self-knowledge*, (C) *collective strength*, (H) *high expectations*, (E) *ecologies*, (C) *context* and (K) the commitment to *keep on track* a permanent developmental process.

The quality of schools may benefit from a resilient approach and the concept of resilient schools enables us to address the quality of schools in a contextualised and territorialised way. The reflection about these characteristics can be an input for the development of *measurement* instruments to think about the quality of the schools beyond only the students' academic success, improving the schools as a whole. Contributing to the development of the concept of resilient schools may help the creation of policies and programmes to recognise and enhance the potential of schools in the reduction of inequalities, such as those arising from contexts in peripheral locations.

It may also help to propose positive visions against the fatalism of peripherally. A complex and ecological vision of resilient schools may help to think about the schools' strategies in difficult situations, such as the Covid-19 global pandemic, as promising approaches to other contexts. Along with Ungar (2012) and Adger (2000), we consider it relevant to shift towards understanding schools' resilience through an ecological and systemic approach.

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Note on authorship

Ana Milheiro da Silva contributed to the data collection, data analysis, article writing and translation. Sofia Marques da Silva contributed to the article writing and final review.

Data availability statement

The data underlying the research text are reported in the article.

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